

中图分类号：TU984.3

文献标识码：A

文章编号：1673-1530(2013)06-0088-08

收稿日期：2013-05-26

修回日期：2013-08-25

# 法国城市绿色基础设施的认知与实施 三个案例研究(巴黎、马赛、斯特拉斯堡) Perceptions and Implementations of Urban Green Infrastructures in France Three Cases of Studies (Paris, Marseille, Strasbourg)

撰文：(法国)罗兰·科米尔 (法国)艾蒂安·格雷斯顿 (法国)姗德林·格拉特伦 (法国)娜塔莉·布兰

翻译：孙帅

Text by : Laure CORMIER (FR) Etienne GRESILLON (FR) Sandrine GLATRON (FR) Nathalie BLANC (FR)

Translation by : SUN Shuai

**摘要：**由11支团队、50名社会科学和生态学领域的研究人员共同推进的法国国家方案“城市绿色框架 (Trame Verte Urbaine)”，已经建立了一套城市绿色基础设施的评估体系，并为法国各地实施地方层面的绿色基础设施政策制定了参考。城市绿地主要具有提供持续生态系统服务的功能，为规划者和各地方政府进行相关工作提供了一定参考，例如，绿道可以被视为新城市文明指引下的一项兼具美学和生态价值的基础设施。本文研究了法国3座具有不同城市文化和环境背景的城市，具体包括巴黎（法国北部），马赛（法国南部）和斯特拉斯堡（法国东部）。

**关键词：**绿色基础设施；公共政策；感知；生物多样性；自然

**ABSTRACT:** The French national program “TrameVerteUrbaine” (50 researchers, 11 teams research both in social sciences and in ecology) has built an assessment of urban green infrastructures and propose to develop a referential in order to guide the implementation of green infrastructure politics at local scale. The interest of urban green continuities in their capacity to provide ecosystemic services is considered in order to work out some referential frames that can be used by the planners and the municipalities: greenways are considered as an infrastructure between aesthetic and ecology for a new urbanity. Three French cities with very different urban culture and environmental context were studied, among other case studies: Paris (north of France), Marseille (south of France) and Strasbourg (east of France).

**Key words:** Green Infrastructure; Public Policies; Perception; Biodiversity; Nature

## 1 引言

在欧洲，自20世纪90年代末以来，绿色基础设施便逐渐成为规划的当务之急（琼格曼等，2004）。法国许多城市地区根据其自身的利益需求而对这一概念进行了重新解释（布兰克，2012）。随着格勒内勒（Grenelle）1、2号法律（2009年和2010年）的颁布，如今每一个地方当局都必须将具有生态意义的绿色基础设施纳入大都市和地方尺度的规划项目，具体来说，即“绿道（trame verte）”。为了涵盖文化、社会、地理和生态系统等多元化要素，3个城市：巴黎，马赛，斯特拉斯堡市都在尝试如何建立这种反射机制。事实上，在法国法兰西岛大区，城市当局的多项举措都反映了其对绿色基础设施和生物多样性问题的关注：塞纳圣-德尼（Seine St-Denis）部门观测的生物多样性和自然栖息地（巴黎市政府，2004年），建立区域机构自然法国（Natureparif）（2006年），制定区域生物多样性战略（2007年），以及巴黎生物多样性计划（2011年）。此外，马赛受到巴塞罗纳及其绿环（anellaverda）的影响，在自己的城市范围内制定了绿色基础设施的发展计划。马赛市规划局（AGAM）提出的方案连接了城市残留的非构造性空间，通过城市绿色基础设施，来解决城市环境的可持续发展问题。最后，阿尔萨斯是第一个响应法国的绿色基础设施环境政策（20世纪90年代中后期）的地区。斯特拉斯堡1992年的本地规划和2007年的大都市计划，都在其法定文件中提到了“绿道”一词。目前，城市社区当地城市发展计划（PLU）的一部分——斯特拉斯堡更多地从生态角度来定义绿道网络。

通过考虑乡镇植被连续性，绿色基础设施的概念带来了当下城市思想的复兴。如果生态学家们早些年注意到生物多样性被侵蚀，绿色基础设施会作为一个新的人类科学研究领域。多种与此概念相关的理念，为物种保护的实践和理论研究带来了新挑战。对于科学模型和政治问题，决策过程必须考虑并回应这些期望。在今天的大多数情况下，多学科领域的交叉将难免需要在公众参与环节中引入新的组织方式。我们比较研究以下3个案例在政策、科学和物种彼此的不同。

## 2 绿色基础设施政策的相似性和异质性

## 2.1 强烈的共同特点

当审视这3座城市时，第一个着眼点是绿色基础设施在当地一体化城市规划（PLU）法定分区中的缺失。事实上，3个城市的规划（PLU）都没有预先在其政策和图形文档中考虑到生态网络的存在需要，但这3个旧规划已在进行修订中。格勒内勒1、2号法案为这些文件带来了新的发展层面，要求各市在其规划中“考虑”生态连续性的需求。而3座城市的最新发展规划则体现了这种演变。分区文件尚未制定完成，但绿色基础设施的制图规定正在研究之中，主要使用基于照片的解释方法。景观/环境/生态设计办公室正在为马赛进行这项工作，斯特拉斯堡和巴黎则是由自己的市政当局着手。将可持续性的绿地整合入当地法定的城市规划文件中，立法者需要采用多样手段使公共及私人空间均能获益。然而，回顾这3个城市的规划文件，绿色基础设施定下义的空间几乎仅包括公共空间：行道树，公园和花园，河岸区等。在法律上实行生态连续性问题需要政治勇气，而法国地方议员很不愿意显示出来。然而，从监管的角度来看，通过确立《保护绿色空间》《持久性私人绿色空间……旨在全面改善那些绿地和种植园的空间质量》的概念，将有利于形成真正的符合巴黎市政府意愿的私人空间（引自：PADD，巴黎城市规划文件）。

最后，通过对多种情景的解读，我们理解到在城市中构建连续性所存在的困难与发展前景的困境，以及它与绿色基础设施概念之间的内在联系。如果绿色基础设施在图纸上出现，因为那是一个特定的地理位置。绿色的连续性需要得到支持，因此它强烈需要被纳入道路或流域网络系统中去。在高密度建设的城市里，只有沿着街道或河流才可能创造一个连续的绿色空间。因此，我们可以观察到绿色和蓝色之间存在着很强的相关性，特别是在斯特拉斯堡的例子中。然而，通过阅读各种文件，我们可以观察到一个旨在避免使用通用术语“绿道、蓝道”总的趋势，这一趋势由于格勒内勒法案的关系，现已与城市的规划密度息息相关。

使用其他的词汇来表达绿色连续性的概念，如斯特拉斯堡的“生态网络”和巴黎的“生态走廊”，给规划师在资源组织和相关地区调配方面带来了更大的操作空间。因此，从监管的角度来看这与“绿道”的定义

相关，它希望为那些没有被格勒内勒法案覆盖的空间（如墓地、运动场等）对不同形式的生态管理进行整合。这一语言划分可能显得微不足道，却反映了规划师在使用“绿道”一词的不安。通过我们对3个城市已经进行的各种采访，发现监管层对于这两个基本概念的区别显得过于严格。这增加了对生物多样性相关策略的实用性，政策不会对有关区域的实际管理进行干预。进一步说，在规划法规范范围内的绿地监管工具由于相对较弱，似乎并不适合城市的需要（坎普奥·杜夫亨与卢卡斯，2012年）。

此外，尽管目前法国的绿色基础设施政策主要针对生物多样性，如格勒内勒法案，3个城市多样的行动计划都突出了不能被单一的生态愿景所取代的社会维度。绿色基础设施的社会功能与生态功能密切相关，在某些情况下，规划者需要特别说服当地官员。事实上，与经济利益和生活质量相比，保护生物多样性的问题几乎不能引起官员们的重视。3个城市负责绿色基础设施项目的规划师们，都在确保研究具有必要的科学谨慎性方面下了苦工。等到空间的生态特性被明确下来，才用一个完美的说法对地方官员施压。

## 2.2 当地环境的重要性

这些城市之间既有相似之处，也有不同之处。最明显的差距是3个城市绿色基础设施的发展演变过程。马赛最近才开始致力于明确绿色基础设施的定义，而斯特拉斯堡自1992年以来就一直进行相关研究，巴黎则于2011年通过生物多样性文件规划了一个广阔的生物多样性行动计划。“绿道”的概念也因场地、项目目标和监管手段的不同而不同。

在马赛，绿色基础设施对于公共决策者是一个全新的概念。只有少数最近的规划文件明确与之相关。然而，城市对这个话题的反思已经持续了7年。各种文件都同意在密集的城市周边区域进行绿色基础设施项目。通过“自然2000计划1号与2号”等文件将森林和小溪定为不同级别的保护对象。虽然大都市政策导向的绿色基础设施服务于生物多样性，但在文件文中并不明显。事实上，生态目标似乎更类似于旅游、娱乐和城市发展的制度，以确保“大都市的吸引力”。因为这种大都市的政策定义，马赛市政府目前正在审查其当地的城市规划。虽然规划文件集合

了生态和社会学的观点，但工作文件主要关注通过网络组织“城市中所有的自然公园、花园、邻里花园、小径和高品质社区”来提升生活质量。地方民选官员似乎不愿发展绿色基础设施政治（城市项目经理，康萨尔斯等，2012），这一现象在法国的许多城市都可以观察到（康米尔，2011）。然而，城市的绿化和规划行政主管部门，在当地法定城市规划的制定过程中所能发挥的能量极小。它将为未来预留一个潜在的政治意愿。严格来说，并没有一个线性和连续的基础设施，在该框架之下公共绿地被定义为一种没有冲突的区域，是一系列的片段，康萨尔斯与其同事（2012）谴责这种对生态问题的疲软政治承诺。在绿色基础设施项目中，强大的城市化过程叠加在庞大的绿色自然空间网络上，往往有利于被破坏的半自然区域，特别是那些未受到环境立法保护的脆弱区域。

在斯特拉斯堡，绿色基础设施的概念已在政治上达到了成熟。第一个被引用的文件是1992年当地城市规划，它反对以人类中心的规划范式，强调以植被区域美化城市。该市对连续性的关注在20世纪90年代初的规划就早有体现，且与水文学紧密联系。但事实是直到21世纪初，在环保团体和区域政策压力的巨大影响之下，环境问题才真正在规划文件中被关注。事实上，阿尔萨斯是全法首批关注绿色基础设施在制止生物多样性丧失方面作用的城市之一。2007年，都市计划开始实施其第二和第三章指出的“保持自然区域，以确保全球的生态平衡”的自然区域保护目标，但是这个雄心勃勃的目标对于绿色基础设施的概念还不清楚。绿色基础设施一直与特殊区域的保护相关，如自然空间，线性溪流，多样化景观，但却从来没有被真正定义。现在，该市正处于文件定义（属于生态网络的）空间的实施阶段。这是城市地方规划中定义绿色基础设施的初步步骤。生态网络术语的使用并不是一个偶然的机，它反映出与“绿道”政策相比人们更加接受环保政策。

在法国首都巴黎，人们很早就开始思考绿色连续性问题。从19世纪末豪斯曼（HAUSSMANN）与艾尔凡（ALPHAN）主持的城市规划工程（阿尔利夫等，2011；卡尔考德·康米尔，2010）到2011年的生物多样性规划，我们可以观察到其考虑问题的一个大

转变。有研究指出，在2003年的地方一级政府文件中，第一次提及到将绿色基础设施融入当地城市规划。这份文件将其定义为“由公园、广场、公共花园和城市海滨长廊构成的绿地空间。”因此，绿色基础设施包括所有的绿地和行道树。在以人类为中心的模式中，巴黎的绿色基础设施不得不假设这些目标本质上要为社会、美学和生活质量的改善而服务。2006年的巴黎市本地规划非常适合于这种思想，依托了关键的绿地，树林，塞纳河，运河，墓地等空间。但是，它也增加了另一个层面，即通过了将私人空间整合入绿色基础设施的具体规定。

这一政策使政治意愿得以在私人空间得到贯彻，即通过监管工具来维持绿地。我们必须等待2011年11月“生物多样性计划”——一个真正的城市生态政策——由巴黎国会通过。巴黎的绿色基础设施明确界定了其线性形式和点状形式，使其更具多样化和多尺度的特征，并展现出以生物多样性为中心的绿色基础设施愿景。文本中的“组织（mobilized）”基本上属于生态词汇，并提出了各种具体措施来实现这一目标：监管（如在包括私人空间的所有绿地中停止使用合成杀虫剂和除草剂），建立或恢复空间（如到2020年新建40座池塘或湿地），知识和认识（如创建的生物多样性观测台）。

3 三个城市，三个假想的人

在这3个城市中，24个“专案小组”均由6至9人组成，其中包括2至3个研究人员。专案小组制度本身缺乏多样化的代表性，但此外通常还有约160位公民通过采样方式参与进来。尽管缺乏代表性，但是这种制度使社会上的批评声音减少了，并收到令民众满意的效果。

我们采用了两种方法来研究民众的意

见。第一种是使用阿尔切斯特软件（Alceste software）量化意见。它区别于统计关联词的频率和程度的计算方法，如计算 $\chi^2$ 统计指标。智方（Chi-square）数据能够识别出关联的意见。第二种方法是为绿道确定想法和主题。我们在3个城市里都实行了以上两种方法。

3.1 关于绿道的不同论述

整个文本中，专案小组对阿尔切斯特软件（Alceste software）的结果进行分类，以确定每个城市发展不同的话语（表01）。词汇计量学（Lexicometric）分析表明，巴黎人关心野生动物。他们首先提出了他们认为不必要的动物（如鸽子，鼠），并希望管理者限制这些动物的活动空间，因为他们将野生动物视为潜在的有害物。然后他们谈论了理想的动物，如松鼠，鱼，兔，并希望绿色基础设施能够增加它们的数量。巴黎人不认为在密集的城市中能够建设这些绿色走廊。一个巴黎人说：“我想象中的城市绿色基础设施应类似于一张网，是将城市与农村连接起来的东西。但不可否认我不能把这张网具现化，我不知道在巴黎这样的大城市它会以什么样的形式出现。”

在马赛，重大利益是不同的，环境首先唤起公众健康的问题。绿地空间应专注于废物处理（垃圾收集，粪便）和保证狗被皮带拴住等问题。对于马赛居民们来说，环保项目并不是最优先的。因此我们必须首先解决不文明行为的问题。城市绿色基础设施首先要对环保的电车进行建造。其后，将它转化为一种将周围丘陵与城市中心之间的潜在链接。

在斯特拉斯堡，使用的词汇与生态学家和环境学家相似。人们熟悉城市绿色基础设施（走廊，生物多样性）的概念。环保团体在斯特拉斯堡明确提及（有时是自发的，在

刚开始时则是受邀请的）对于绿道的渴望。对于非环保人士来说，虽然他们没有提及到绿色基础设施这一术语，但他们对自然区域的描述则清楚地反映出他们对保持植物和动物运动连续性的强烈想法。然而，只有当城市人们每天都实践绿色基础设施的理念时，绿色基础设施的理念才能发挥到最好，而不是服务于“人”。此外，自然要素是必要的，并将在城市生活中的目标中占据重要位置。有人说：“我认为自然有两方面功能：首先可以观察这个空间，另外，自然可以整合更多其他的空间。首先，出于健康的原因，对自然进行观察与思考，并试图反思整个社会，这样以后，城市肌理得以形成，城市也将重获生机”。在斯特拉斯堡，城市化与保护自然可以兼容。他们愿意改变他们的运输方式，并重新反思自己的城市设计。

这些巨大差异使城市之间的绿色基础设施愿景产生了不同的态度和行为方式。

3.2 城市的实践也不同

由于斯特拉斯堡的城市居民每天都使用绿色基础设施，因此其绿色基础设施元素比其他城市更为有名。这里的绿地连续性是显而易见的，并可以被感知和描述。斯特拉斯堡居民可以通过在自然中步行或骑自行车来观察和思考。

巴黎和马赛则与斯特拉斯堡相反，自然元素通常都固定出现于公园中。在巴黎，人们总是提到公园和花园。在这两个城市，人们在公园和花园中坐下、阅读、放松、听音乐、玩耍、带着孩子来玩。这就是为什么连续性不太容易被察觉的原因。马赛是一个奇特的案例，不同于任何其他荒野临近的密集城市（例如卡兰奎斯）。一方面，公园作为城市中的自然区域，却存在着许多文明问题。另一方面小溪被看作是更真实的区域，但不同于有不同法律城市的其他法律领域。小溪是安全的避难所或逃离区。对于一些马赛城镇居民来说，城市中心与自然区域相对立。一位妇女说道：“喜欢去海边、野外的小溪……那里没有任何建筑物，它是自然和野生的。”另一名在小溪游憩的居民表示“在我家附近会产生窒息的感觉，我不能呼吸……我真的需要‘充电’，环境或景观还可以抚慰我、阳光、大海、我需要听到动物的叫声，看看黄蜂等小飞虫，看看这些花……”

表01 阿尔切斯特软件对最常用词汇（Σ）和最显著词汇（ΣCHP）进行分类，以显示这些词汇对于城市的重要性。

类型1			类型2			类型3		
词汇/描述符(*)	Σ	ΣCHP	词汇/描述符(*)	Σ	ΣCHP	词汇/描述符(*)	Σ	ΣCHP
巴黎(*)	376	517	马赛(*)	521	456	斯特拉斯堡(*)	116	402
鸽子	88	402	垃圾箱	248	325	物种	112	288
鼠	80	240	拿起	46	163	动物	52	280
松鼠	40	225	狗	80	147	植物	56	143
鱼	30	131	屎	20	68	走廊	183	85

最后，由于城市的结构，以及沿运河和自行车道勾勒出的城市建成区线条，斯特拉斯堡的居民们得以在自然中自由的穿行。反之，巴黎和马赛的居民只能去一座公园，却没有更多的移动性。他们来到一个可以休息和享受宁静的场所。自然空间与城市建成区隔离开来。公园和花园还面对着噪声的侵扰和城市人口或交通的压力。

尽管在某些案例中，自然是人工建设的并缺乏真实感，但人们在自然中感受到的幸福感，仍具有重要作用。

## 4 结论

因此，这3种情况使我们能够在不同领域的操作系统中评估绿色基础设施的概念。

首先，我们从绿色基础设施正常的目标中看到了一些规律。我们观察到在大都市层面的规划中发生倾斜：如果最初的绿道主要考虑社会和娱乐功能，那么现在它们将会具有更多的移动性，其生态功能也将得以发挥。但当地官员怀疑媒体的报道和通过“绿道”管理自然的理念。这种不情愿，对当地政策产生了语义上的后果：当地政府在其绿色政策上使用其他的术语来替代绿色基础设施。因此，这一语义上的规避使绿色基础设施概念的理解更为广泛自由。现在，“绿道”一词几乎完全在监管领域中被专用。这项立法禁止任何解释，绿道有助于促进城市中生物多样性的解释也被限制。

这3个案例说明，在法国不同的发展需求、不同的发展、不同的空间条件和不同的执行策略，会导致产生不同的“绿道”政策。这种政策的异质性与当地的地理和社会经济条件密切相关。从上述3个案例可以看出，有几个因素可能影响到地方官员的意识：当地与自然系统相关的文化，参与者的组织架构，尤其是绿色基础设施项目负责人的魅力等。

为了实施绿色基础设施，规划师必须花费一个漫长的官方规划周期（10年）时间了解当地居民们的看法。因此，由于绿色基础设施空间连续性发达，斯塔拉斯堡对于绿色基础设施更加敏感。重要的是要确保绿色基础设施的开放性。如果规划者能够为基础设施预留出绿化的公共空间，就可以增强居民规避风险的能力。在绿色基础设施空间中，确保居民能够进行动态的行为（自行车，步行）和静态的行为（阅读，沉思）都是必要的。

## 1 Introduction

Green infrastructures have gradually become imperative in planning since the end of 1990s in Europe (Jongman et al, 2004). Numerous urban areas in France mobilize and reinterpret the notion according to stakes of their territory (Blanc, 2012). With the promulgation of Grenelle 1 and 2 Laws (in 2009 and 2010), today every local authorities have to integrate an ecological reflection on green infrastructures into its planning projects at metropolitan and local scales, called "trame verte". To cover a plurality of contexts of cultural, social, geographical and eco-systematic levels, three cities were retained to understand how this reflection is set up: the municipalities of Paris, Marseille, and Strasbourg. Indeed, in Ile-de-France, a number of initiatives reflect the interest of the regional, departmental and municipal authorities for green infrastructures and biodiversity issues: the Seine St-Denis departmental observatory of biodiversity and natural habitats (City hall of Paris, on 2004), the creation of the regional agency Natureparif (2006), the regional strategy for biodiversity (2007), the Paris biodiversity plan (2011). Furthermore, the city of Marseille, influenced by the example of Barcelona metropolitan area and its anellaverda (green ring), plans the development of a green infrastructure on its municipal territory. It confided the study to the Planning Agency of Marseille Urban area (AGAM) which elaborates scenarios for connecting the residual non-constructed spaces, to endow the city of a green infrastructure addressing the environmental issues of sustainable development. Finally, the region Alsace was one of the first regions to integrate a reflection into these environmental policies on green infrastructure in France (in the late 1990s). The Strasbourg local planning in 1992 and the metropolitan plan in 2007 (SCOTER) mention the term "greenway" in their statutory documents. Currently, as part of the development of the urban local plan (PLU), Strasbourg urban community defines a network of greenways in an ecological perspective.

Through the consideration of vegetable continuities in town, the notion of green infrastructures brings a revival in the current urban thinking. If scientists in ecological sciences were

interested since a few years in this question to fight against biodiversity erosion, green infrastructures appear as a new field of investigation for human sciences. Multifunctionality associated with this notion of meshing offers new challenges as for practices and perceptions of inhabitants. How decision making can take into account and translate their expectations regarding scientific models proposed and political issues? Its diverse dimensions introduce inevitably new modalities of the public debate organization which remain to invent in most cases today. We have compared in each of the studied sites the three following spheres, often distinct from one another: political, scientific and inhabitants.

## 2 Similarities and Heterogeneity of Green Infrastructure Policies

### 2.1 Strong Common Characteristics

In view of the analysis of these three municipalities, the first observation that can be made is the absence of zoning statutory integration of green infrastructure in the urban local plan (PLU). Indeed, none of the three PLU reserve in their rules and graphic document refer to a consideration of an ecological network. However, these documents are old, and the three PLUs are under review. Laws Grenelle 1 and 2 bring a new dimension in the development of these documents by requiring municipalities to "take into account" ecological continuity in their regulation. The orientation of the three new local development plans reflects this evolution. Zoning documents have not yet been made, but cartographic definition of green infrastructure is underway in the three municipalities, mainly using method based on photo-interpretation. It is undertaken by a design office of landscape/environment/ecology for Marseille, and by municipality's services for Strasbourg and Paris. To integrate statutorily green continuities in local urban planning documents, the legislator may act on different devices that could interest both to public and private spaces. However, regarding planning documents of the three cities, spaces included in this definition are almost essentially public: roadside trees, parks and gardens, the edges of banks ... to act statutorily on ecological continuity issues requires a political courage which

local councilors in France are quite reluctant to show. However, there is a true will from the municipality of Paris to act on private space from a regulatory point of view by defining the notion of *Protected Green Space* for *Durable Private Green Space* [...] *Aiming at Improving the Global Quality of those Spaces and their Plantations* (PADD PLU, Paris).

Finally, reading the various scenarios, we understand the difficult existence and prospects of the idea of continuity in the city, intrinsically linked to the concept of green infrastructure. If it appears cartographically, it's because of a particular geographic location. The green continuity requires support, and so is therefore strongly imbricated to with the road or watershed networks. In town, building densification allows the creation of a green physical continuity only on spaces along streets or rivers. So as a result, we could observe a strong correlation of green and blue frames as evidence, particularly in the example of Strasbourg. However, reading the various documents, we can observe a general trend that aims to overcome the generic term "trame verte et bleue", which is now strongly linked to a planning disposition because of Grenelle's laws.

Using a distinct vocabulary to express the idea of green continuity, "ecological networks" for Strasbourg, "ecological corridor" for Paris, allows greater interpretation latitude for planner, particularly in resources mobilized and areas concerned. Thus, it is associated with the definition of "trame verte" in a regulatory perspective, the desire to integrate different forms of ecological management for more spaces (Cemetery / sports field) that does not seem to be covered by Grenelle laws. This linguistic demarcation, that may seem insignificant, reflects planner's unease in front of the regulatory aspect of "trame verte". Thus, in view of the various interviews we have carried out in these three cities, this regulatory dimension appears too restrictive for two essential points. It raised the relevance of such a device on the real effect on the biodiversity increasing; regulation does not intend to act on management of the areas concerned. Furthermore, the range of regulatory tools for green spaces in planning law, relatively small, do not seem

suited to urban logics (Camproux-Duffrène and Lucas, 2012).

Moreover, even if green infrastructure policy in France today, as intended by Grenelle laws, aims to act mainly on biodiversity, various actions on the three cities highlight a social dimension that cannot be ousted in favor of a single ecological vision. Green infrastructure social functions are strongly associated with ecological functions, and in some cases are the main arguments of planners especially in order to convince elected officials. Indeed, considering the economic and the quality of life issues, preservation of biodiversity does hardly make sense for them. Planners in charge of green infrastructure in the three municipalities unanimously raise the necessary scientific caution that should bring researchers in an ecological definition. Waiting for clear criteria to recognize the ecological character of a space, they want to have a flawless argument in order to pressure on local officials.

## 2.2 The Importance of Local Context

If there are similarities between these cities, there are also differences. The greatest disparity relates to the progress thought on green infrastructures between three cities. While Marseille is currently committed in this green infrastructure definition, Strasbourg approached it since 1992 in its planning documents and Paris especially from 2011 through its biodiversity plan sets a broad plan of action for biodiversity. The concept of "trame verte" takes different meanings in those three cases, depending on areas identified, objectives and regulatory means mobilized.

Green infrastructure concept in Marseille is a new idea for the public decision maker. Only a few planning documents refers to it explicitly, and they are recent. However, the city reflection on this topic has been engaged for 7 years. Various documents and testimonies agree to draw a green infrastructure in a peripheral position of the dense city. It identifies forests and creeks recognized by various levels of protection: Natura 2000 ZNIEFF 1 and 2... While metropolitan political discourse oriented green infrastructure policy serving biodiversity, its statement in the text is not so obvious. Indeed,

stated objectives seem more akin to orders under tourist, recreational and urban than ecological, ensuring "the attractiveness of the conurbation." Along with this metropolitan policy definition, the municipality of Marseille is currently reviewing its urban local planning. Although planning document convenes ecological and sociological arguments, working papers are primarily focused on the quality of life by organizing "network of all urban nature parks, gardens, neighborhood gardens, trails, quality urban". Local elected officials seem reluctant to develop a green infrastructure politics (chargé de mission of the city, Consales et al. 2012), a phenomenon observed in many cities in France (Cormier, 2011). However, the green space and planning department of municipality statutorily registered in a frame minima in urban local plan. It will set aside areas for a potential political will in the future. The frame is then defined as a patch primarily based on areas not carrying conflicting issues, public green spaces. There is not a linear and continuous infrastructure; strictly speaking, it is more a succession of patch based on non-conflicting issues spaces: mainly public green spaces. Consales and colleagues (2012) denounce the weakness of political commitment on these ecological issues in front of "a powerful densification process which tends to be superimposed on a vast network of green natural spaces potentially be mobilized in a project of green infrastructure". This lack of political commitment tends to favor the loss of semi-natural areas, particularly vulnerable when they are not protected by an environmental legislation.

In Strasbourg, green infrastructure concept has reached a political maturity. The first document to be referenced is local urban plan of 1992, essentially declined in anthropocentric paradigm, where vegetated area allows the city to heal its urbanity. Consideration of the idea of continuity is already in the planning early 1990s and is strongly associated with the hydrological context. But it was not until early 2000 that environmental issues were considered in planning documents. This concern is greatly influenced by pressures of environmental groups and regional policy. Indeed, Alsace is one of the first states to become

interested in green infrastructure characterization in order to halt the loss of biodiversity. In 2007, the metropolitan plan devotes its second and third chapters to natural areas preservation of by stating the objective of keeping "natural areas to ensure global ecological balance". Despite this ambitious goal, the concept of green infrastructure is unclear. The green infrastructure term is associated with the preservation of exceptional areas (natural spaces, linear streams, varied landscapes) but is never actually defined. Today, the metropolitan level is in the implementation phase of a document defining the spaces belonging to the ecological network. It is a preliminary step for the identification of green infrastructure in the urban local plan. The use of ecological network term is not a chance, it responds to a desire to adopt an environmental policy wider than a "trame verte" policy.

The consideration of green continuities has a past in the French capital. Since city planning works undertaken by Haussmann and Alphan late 19th (Arrif et al., 2011; Carcaud Cormier, 2010) to the Biodiversity plan of 2011, we can observe a large change in its consideration. The first mention of green infrastructure term at the local level is supported by a study, in 2003, for its integration into urban local plan. This document defines it as "all green spaces constituting parks, squares, public gardens and promenades of the city." the green infrastructure concerns, therefore, all green spaces and tree lines. In an anthropocentric paradigm, Paris green infrastructure has to assume objectives which are essentially social, aesthetic, and improvment of the quality of life. Paris urban

local plan (2006) fits well in this thought, relying on key spaces: green spaces, woods, Seine, canals, cemeteries. However, it adds another dimension by integrating a specific regulation on private spaces for green infrastructure.

This device translates a political will to have control over private spaces, through regulatory tool, to sustain green spaces. We must await the adoption of the Biodiversity plan (November 2011) by Paris Council for a real display of the city ecological policy. The Parisian green infrastructure is clearly defined through linear forms and punctual forms. The elements taken into account, more varied and at different scales compared to the local urban plan, show a biocentric vision of the green infrastructure. Semantics mobilized in the text essentially belong to ecological vocabulary. Various concrete measures are proposed to achieve this goal: both regulatory (eg. Stopping the use of synthetic herbicides and pesticides in all green spaces, including private spaces), creation or restoration of spaces (eg. creation of 40 ponds or wetlands to 2020), knowledge and awareness (eg. creation of a biodiversity observatory).

3 Three Cities, Three Imaginary People

In all three cities, twenty-four "focus groups" composed of six to nine people were gathered around two to three researchers. The focus group method does not bring out the diversity of representations but the significant number of the participating citizens (total 160), the sampling technique, and some redundancies in the comments encourage us to think that despite

the lack of representativeness, we are facing a satisfactory significance of the remarks.

Two methods have been developed to study the speech of the inhabitants. The first seeks to quantify the words with the Alceste software. It distinguishes classes by frequencies and degrees of meaning of word association by calculations of statistical indices such as Chi2. The Chi-square index identifies words significantly associated with a class of speech. The second method is to identify ideas and themes specific to the greenway. These two analysis have described the practices and representations specific to the three urban areas.

3.1 Different Discourses in Relation to Greenways

Throughout the text focus group the classification descendant of Alceste has determined that each city develops has different discourses (Table 1). Lexicometric analysis shows that Parisians are concerned about wildlife. They first speak of unwanted animals strongly related to humans (dove, rats). They want managers to limit their spatial progress because they see wildlife as potential pests. Then they talk about desirable animals like squirrel, fish, and rabbits. They would like green infrastructure to increase their number. Parisians don't see what these corridors or developments could look like in a dense city. And a Parisian says that " I imagine urban green infrastructures means mesh, maybe something that would link city to countryside, but it is true, I cannot visualize it. I don't know what form it might take in a big city like Paris."

Table 1: Classification proposed by the Alceste software with the most used words (Σ) and significant (Σ CHI²) showing the importance of the city.

the city.								
Class 1			Class 2			Class 3		
Word / descriptor(*)			Word / descriptor(*)			Word / descriptor(*)		
Σ	ΣCHI²		Σ	ΣCHI²		Σ	ΣCHI²	
Paris (*)	376	517	Marseille (*)	521	456	Strasbourg (*)	116	402
Dove	88	402	Dustbin	248	325	Species	112	288
Rat	80	240	Pick up	46	163	Animal	52	280
Squirrel	40	225	Dog	80	147	Vegetable	56	143
Fish	30	131	Shit	20	68	Corridor	183	85

In Marseille, the stakes are different and the environment first evokes problems of public health. Greenspace focus on issues related to the treatment of waste (garbage collection, excrement) and dogs on leash. For inhabitants of Marseilles environmental projects are not yet a priority. We must first address incivility problems. The urban green infrastructures refer primarily to the tramway built. Then, it is a potential link between

surrounding hills and city center.

In Strasbourg, vocabulary used is similar to ecologists and environmentalists discourses. People are familiar with concepts attached to urban green infrastructure (corridor, biodiversity). Environmental groups in Strasbourg explicitly mention (sometimes spontaneously and at the beginning of interviews) greenway expression. For non-environmentalists, though the term itself is not quoted, the description of places of naturalness clearly shows this strong idea of continuity for plants and animals movement. However, it is when urban people practice green infrastructure daily that it is best known, and rather for "human" uses. In addition, nature is a necessity and will recharge a major goal of urban life as evidenced by these words: "I saw nature in two ways: firstly, in terms of observation, watch this space there, and on the other hand, try to integrate more. First, for reasons of health "and to" observe nature, contemplate, managing to join in this observation the whole society, it creates an urban fabric. The city back to life." For Strasbourg, urbanization is not incompatible with preservation of nature. They are willing to change their mode transport and to review the design of their city.

These large differences induce visions of urban green infrastructures, very different attitudes and behaviors from one city to another.

### 3.2 Urban Practices are also Different

Elements of a urban green infrastructure are more known in Strasbourg than in other cities because urban people use them daily. Continuities are apparent, perceived and described. Strasbourg inhabitants observe and contemplate nature by walking, cycling.

In Paris and Marseille on the contrary, nature elements are rather related to stationary practices in parks. In Paris, parks and gardens are always mentioned. In both cities, people come to sit, read, relax, listen to music, play and their children often run into these parks and gardens. That's why continuity is much less easy to perceive or project. Marseille is a singular cases, unlike any other cities with presence of wilderness (Calanques for exemple) close to dense city. On the one hand,

parks (Borely, Longchamp) that form the urban nature which found many problems civility. On the other hand the creeks are areas perceived as more authentic but different from the city with other laws. The creeks are compared to haven of peace or areas of escape. For some Marseilles urban inhabitants, the center is the opposite of a natural area. A woman "prefers to go by the sea in the wild creeks, (...), there are no buildings, it's natural, it's wild." Another resident is in creeks because she has the "feeling of choking, I'm choking in my neighborhood, I cannot breathe ... I really need" to recharge "in quotation marks, to have an environment that soothes me, either by sight, the sun is on the horizon, the sea, I need to hear these animals, these wasps, to see these little gnats to see these flowers ...".

Eventually, because of structure of the city, and building lines made by canals and bike lanes, the inhabitants of Strasbourg associate nature with their mobility. Whereas Parisians and the inhabitants of Marseilles go to a park and don't move of it. They come to these spaces to have a rest and enjoy the quiet. Natural spaces make a break with urban frenzy. Parks and gardens are the opposite of stress, noise and agitation of urban people or traffic.

For all nature is a purveyor of well-being in which the senses have an important role. Despite of the fact that, for some, nature has something synthetic and does not seem quite "real" in town.

## 4 Conclusion

Thus, these three contexts allow us to evaluate consideration of green infrastructure concept in different spheres of actors system.

Firstly, some logic emerges from the objectives assumed by a green infrastructure policy. We observe a shift of its declination in metropolitan level planning: if greenways were first considered in their social and recreational functions, they are now more mobilized for their ecological functions. But local officials are suspicious of media coverage and the regulatory nature of "trame verte" concept. This reluctance has a semantic consequence in local politics by using many other terms for their green politics. Thus the semantic avoidance offers



more freedom of interpretation. "Trame verte" is now associated almost exclusively with regulatory fields. This legislation inhibits any latitude of interpretation which however could contribute to promote biodiversity in city.

These three cases illustrate the diversity of "trame verte" policies that can be carried out in France in their progress, their objectives, spaces concerned, and enforced measures. The heterogeneity of these politics is closely related to both geographical and socio-economic conditions of each site. From these three contexts, several factors may be involved in the awareness of elected officials. They are influenced by the local culture versus nature in the city, the system of actors and especially the charisma of the project leader of the green infrastructure policy.

For the implementation of green infrastructure, planners have to understand perceptions inhabitant on a lengthy time at scale of official planning calendar (10 years). Thus, Strasbourg are most sensitive to green infrastructures because of their access to physical continuities. It is important to ensure opening of green infrastructures. If planners close to public spaces reserved for green infrastructure, rejection risk of inhabitants is strengthened. It is necessary to ensure and enroll in green infrastructures in mobile practices (cycling, walking) and static practices (reading, contemplation) of inhabitants.

#### 参考文献:

- [1]Arrif T., Blanc N., Clergeau P., Trame verte urbaine, un rapport Nature-Urbain entre géographie et écologie[J/OL]. Cybergéo, 2011[2013-10-25]. <http://cybergeo.revues.org/24862>
- [2]Blanc N. Les nouvelles esthétiques urbaines[M]. Paris:Armand Colin.2012.
- [3]Camproux-Duffrène M.-P., Lucas M., L'ombre portée sur l'avenir de la trame verte et bleue[J/OL]. Quelques réflexions juridiques : Développement durable et territoires, 2012[2013-10-25]. <http://developpementdurable.revues.org/9256>.
- [4]Consalès J.N., Goiffon M., Barthélémy C., Entre aménagement du paysage et ménagement de la nature à Marseille: la trame verte éprouve du local[J]. Développement durable et territoires, 2012;3 (2).
- [5]Cormier L., Bernard De Lajartre A. et Carcaud N., La planification des trames vertes, du global au local : réalistes et limites[M]. Cybergeographie : European Journal of Geography, 2010: 22.
- [6]Jongman R. H. G., Kullvik M., Kristiansen I. European Ecological Networks and Greenways[J]. Landscape and Urban Planning, 2004: 68(2-3): 305-319.

#### 作者简介:

罗兰·科米尔/博士后/巴黎12大地理城市规划与环境动力学专业助理教授

艾蒂安·格雷斯顿/博士后/巴黎狄德罗大学助理教授/LADYSS UMR 7533终身研究员

娜德林·格拉特伦/CNRS实验室研究员地理学家

娜塔莉·布兰/CNRS LADYSS、巴黎狄德罗大学研究员地理学家

#### Biography:

Laure CORMIER, Post PhD, is an assistant professor in geography urban planning and environment dynamics, in Paris Urban Planning Institute.

Etienne GRESILLON, Post PhD, is an Assistant Professor in Geography at the University of Paris-Diderot and a permanent researcher at LADYSS UMR 7533.

Sandrine GLATRON is a Researcher geographer of CNRS Laboratoire Image, Ville, Environnement,

Nathalie BLANC is a Research director geographer of CNRS Ladyss, Paris Diderot university.

#### 译者简介:

孙帅/ 1986年生/男/山西人/博士/北方工业大学建筑工程学院讲师/研究方向: 绿道规划设计研究(北京 100144)

#### About the Translator:

SUN Shuai, PhD, was born in Shangxi Province, 1986. He is a lecturer in College of Architecture and Civil Engineering, North China University of Technology. His research interest lie in Greenway planning and design.(Beijing 100144)